DRAFT
ENVIRONMENTAL ASSESSMENT

Pah Rah Grazing Allotment

BLM
Sierra Front Field Office, Nevada

DOI-BLM-NV-C020-2012-0048-EA

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

The Bureau of Land Management (BLM) Sierra Front Field Office proposes in this draft environmental assessment (EA) to issue a new term livestock grazing permit for the Pah Rah Grazing Allotment (Allotment). The Allotment is located approximately 24 miles northeast of Reno, Nevada and is within the jurisdictional boundary of the Sierra Front Field Office. The Allotment encompasses approximately 4,504 acres of BLM-managed land and 1,358 acres of private land and is located southwest of Pyramid Lake in Washoe County (Map 1).

The Allotment's permit is currently held by the Pyramid Lake Paiute Tribe (Tribe) and authorizes grazing of 45 cattle from September 1 to December 31 for a total of 180 animal unit months (AUMs). The permit was issued under the Appropriations Act effective March 1, 2010 and would expire on February 28, 2020. The permit contains standard terms and conditions and is included in Appendix A.

A review of the Allotment was conducted by an interdisciplinary team of BLM specialists in hydrology, range management, botany and wildlife biology. The review considered the vegetative trend and condition, rangeland health, livestock utilization, plant and animal habitat, riparian health and water quality.

The Proposed Action, at the request of the current permit holder, is to issue a new 10-year term livestock grazing permit that would authorize grazing use by 72 cattle from September 1 through November 15 each year, and result in forage consumption of 180 AUMs, annually. The standard terms and conditions included in the current permit would apply (see Appendix A).

The Proposed Action would also include a vegetative treatment to juniper (*Juniperus osteosperma*) trees on up to 500 acres that would be removed in order to improve greater sage-grouse (*Centrocercus urophasianus*) habitat characteristics and modify fire behavior by reducing fire intensity and spotting potential.

In order to address the presence of salt cedar (*Tamarisk ramosissima*), the Proposed Action includes herbicide application to remove the invasive tree from Tamarisk Spring (Map 5).

1.2 Purpose and Need

The purpose of the Proposed Action is to modify current grazing practices in the Allotment to continue to meet or make significant progress toward attainment of objectives found in the Carson City Field Office Consolidated Resource Management Plan (CRMP), and in the Standards for Rangeland Health & Guidelines for Grazing Management, Sierra Front Northwestern Great Basin Area. Management of livestock grazing comes through permittee compliance with the provisions of a term livestock grazing permit issued under the authority of 43 CFR Subpart 4100, that provides the parameters and guidelines for livestock use of the range resources on the Allotment.

The need for the Proposed Action is to provide for appropriate livestock grazing on public lands in accordance with all applicable laws (such as but not limited to the Taylor Grazing Act and the Federal Land and Policy and Management Act), regulations, including but not limited to 43 CFR 4130.1(a) (2005) which states, "Grazing permits or leases authorize use on the public lands and other BLM-administered lands that are designated in land use plans as available for livestock grazing," while achieving or making progress towards achieving applicable land health standards and conforming with applicable guidelines for livestock management (S&G's)[1].

The purpose of the proposed fuels treatment is to:

- Restore and maintain wildlife habitat;
- Reduce the potential of large-scale high severity wildland fire; and
- Provide for public and firefighter safety and protection of property and infrastructure.

Since the 1860's, many bunchgrass and sagebrush-bunchgrass communities, which dominated the Intermountain West, have shifted to pinyon and juniper (*Pinus ducampopinus*, *Juniperus osteosperma*) woodland or introduced annual-dominated communities (West 1984, Miller et al. 1994). Studies conclude that barring some major environmental change or management action, continued forage reduction and decreased fire frequency will continue until trees dominate most of the sites favorable to their survival. This continued tree dominance then jeopardizes the historic woodland sites because under the right conditions, a crown fire could result in a stand replacement wildfire with catastrophic consequences because of continuous tree canopy. Studies further show that in pinyon-juniper communities that are overstocked, the ability of the understory to respond after a fire is dramatically reduced and potentially opens the site to the invasion by exotics. Any treatments or rehabilitation of these areas could be difficult and costly.

The purpose and need for the herbicide treatment in the Allotment is to remove salt cedar from one location (Tamarisk Spring). Currently one tree exists at the site. Wind, water and animals can transport seed to other locations on the Allotment which can disrupt water availability for native species.

1.3 Scoping and Issue Identification

On June 26, 2012 the BLM mailed a scoping letter to individuals and organizations on the project interested party list. The scoping period closed on August 1, 2012. The BLM received no public comments during the scoping period.

On July 16, 2012, this project was considered during an interdisciplinary team meeting. Issues discussed included:

- What is the impact of dormant season grazing on vegetation?
- How much use in the Allotment is there from horses belonging to the Tribe?
- What is the impact of juniper encroachment into the sagebrush steppe vegetation?

[1] The applicable land health standards and guidelines for livestock grazing on the Allotment are those that apply to The "Sierra Front-Northwestern Great Basin Area" of Nevada BLM-managed lands, which were developed pursuant to 43 CFR 4180.2(b) (2005), and were approved by the Secretary of the Interior on February 12, 1997. A copy of these S&G's may be obtained from the Carson City District Office.

1.4 Decision to Be Made

The Authorized Officer would decide whether to issue a new term livestock grazing permit, and if so, its terms and conditions. *Separately*, the Authorized Officer would decide whether to implement fuels treatment and/or whether to implement an herbicide treatment to remove salt cedar at Tamarisk Spring.

1.5 Land Use Plan Conformance Statement

The Proposed Action and Current Management Alternatives described below are in conformance with the CRMP, pages LSG-1 & LSG-2 and is as follows:

- Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values;
- Initially, manage livestock use at existing levels (180 AUMs – cattle);
- Provide adequate, high quality forage for livestock by improving rangeland condition;
- Improve overall range administration;
- Maintain a sufficient quality and diversity of habitat and forage for livestock, wildlife, and wild horses through natural regeneration and or vegetation manipulation methods;
- Improve the vegetation resource and range condition by providing for the physiological needs of key plant species;
- Reduce soil erosion and enhance watershed values by increasing ground cover and litter; and
- Improve riparian-wetland ecosystems to achieve a healthy proper functioning condition that assures biological diversity, productivity and sustainability.

On page FIR-2:

- "Restore fire as an integral part of the ecosystem; improve the diversity of vegetation and to reduce fire hazard fuels."

And on page LSG-8:

- Application of herbicides…would be in accordance with procedures established in Bureau Manual 9222…to ensure non-impairment of other than target species."

As the No Grazing Alternative would be inconsistent with the current CRMP, (the CRMP identified the lands within the Allotment as available for livestock grazing), selection of the No Grazing Alternative would require concurrent amendment of the CRMP (not within the scope of this EA). Under 43 CFR 1610.5-3, all actions approved or authorized by the BLM must conform to the existing land use plan.

1.6 Relationships to Statutes, Regulations and Other Plans

The Proposed Action and Alternatives are consistent with the following documents:

- Taylor Grazing Act of 1934 as amended;
- Federal Land Policy and Management Act of 1976;

- Public Rangelands Improvement Act of 1978;
- Title 43 of the Code of Federal Regulations Subpart 4100 – Grazing Administration;
- Noxious Weed Act of 1974;
- National Environmental Policy Act of 1969;
- Standards and Guidelines for Nevada's Sierra Front-Northwestern Great Basin Area (2003);
- The National Fire Plan, Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001);
- Protecting People and Natural Resources, A Cohesive Fuels Treatment Strategy (2006);
- The Bureau of Land Management National Sage-Grouse Habitat Conservation Strategy, November 2004;
- Memorandum of Understanding Between the BLM and FWS to Promote the Conservation of Migratory Birds – BLM 2010-110;
- National Historic Preservation Act (16 USC 470f), implemented through the *State Protocol Agreement between BLM Nevada and the Nevada State Historic Preservation Office for Implementing the National Historic Preservation Act* (2012) under the provisions of the National Programmatic Agreement between the BLM and the Advisory Council on Historic Preservation; and
- Consultation and Coordination with Indian Tribal Governments – EO 13175.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A: No Action (Current Management)

The Allotment's permit is currently held by the Pyramid Lake Paiute Tribe (Tribe) and authorizes grazing of 45 cattle from September 1 to December 31 for a total of 180 AUMs. Under the No Action Alternative, this authorized grazing would be reauthorized in a new 10-year permit. The standard terms and conditions included in the current permit would apply (see Appendix A).

Under the No Action Alternative, there would be no fuels treatment implemented within the Allotment and the BLM would not use an herbicide to remove salt cedar at one location in the Allotment.

2.2 Alternative B: Adjustment to Season of Use (Proposed Action)

Livestock Grazing.

The Proposed Action is to issue a new 10-year term livestock grazing permit to the current permit holder that would authorize grazing use by 72 cattle from September 1 through November 15 each year, and result in forage consumption of 180 AUMs, annually. The standard terms and conditions included in the current permit would apply (see Appendix A).

This change was requested by the permit holder in order to better coordinate grazing on Tribal lands with grazing on the public lands managed by the BLM in the Allotment. Grazing on adjacent Tribal lands end on November 15, and this would allow livestock rotation between Tribal and public lands on a uniform schedule.

Fuels Treatment.

The juniper trees in the treatment area would be removed on up to 500 acres in order to improve greater sage-grouse habitat characteristics and modify fire behavior by reducing fire intensity and spotting potential. Juniper trees would be lopped and scattered on site with hand tools and small mechanized tools. Hand treatments would be utilized to promote healthy, productive, and diverse habitats in the sagebrush and riparian communities.

Depending on BLM funding, staff availability and workload priorities, the fuels treatment may be completed in one effort that would take approximately one month to complete, or in phases that may take multiple years to complete.

Treatment Design

This project would manage the treatment area in Phase 1 woodland development (Tausch et al. 2009). Trees are present but shrubs and grasses are the dominant vegetation that influences ecological processes on the site. The total treatment area would be up to 500 acres (see Maps 2 and 3). Stump height would be less than six inches and slash height would not exceed two feet in depth. Treatment area edges would be irregular in shape.

Post Treatment Management

The treatment area would require periodic maintenance to remain effective for fire behavior modification and enhanced greater sage-grouse habitat characteristics. Monitoring would be

conducted periodically to assess changes in fuel loads and habitat characteristics in the treatment area. When fuel loads increase to unacceptable levels or habitat characteristics are degraded to an unacceptable level, maintenance actions would be initiated.

Environmental Commitments.
The fuels treatment area lies completely within preliminary general habitat (PGH) for the greater sage-grouse (Map 4). As described in Section 3.4.6, there are no leks within the Allotment. Based on coordination with the Nevada Department of Wildlife (NDOW) and pursuant to BLM Instructional Memorandum No. 2012-043, the BLM may develop commitments such as seasonal restrictions, to minimize potential adverse effects to sage-grouse during fuels treatment.

Monitoring
Monitoring would be conducted throughout the treatment area both during and after implementation. Monitoring would consist of surveys to:

- Ensure that the initial fuel treatment objectives are met;
- Evaluate fuel load recovery;
- Evaluate the need to remove conifers that were passed over the first time;
- Evaluate habitat characteristics; and
- Identify invasive species for subsequent treatment.

Herbicide Application.
The Proposed Action includes the application of an approved herbicide at one location in the Allotment (Tamarisk Spring) for the removal of a salt cedar tree. The single tree, approximately four inches in diameter, would be cut, then the stump and bark would be treated with an approved herbicide. Re-application of the herbicide may be required based on monitoring if the first application is unsuccessful or the invasive plant has spread at the site. The Carson City District Office does not currently have a programmatic Integrated Weed Treatment Plan, therefore the analysis in this draft EA is necessary to proceed with this treatment. This site-specific application would be carried out in compliance with Informational Bulletin No. 2012-022 and the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* and *Record of Decision* (2007), which is hereby incorporated by reference.

Tiering: This draft EA includes site-specific analysis for the fuel and herbicide treatments described in Section 2.2 and may be tiered to for treatments in other locations within the Allotment. The BLM would identify the new treatment area, complete any required compliance under Section 106 of the NHPA, would document whether there is any new information or circumstances (in a tiered EA or Determination of NEPA Adequacy), and if appropriate, issue a Decision Record.

2.3 Alternative C: No Grazing Alternative
Under the No Grazing Alternative, the BLM would not issue a new term livestock grazing permit for the Allotment. No livestock would be authorized on BLM-managed lands within the Allotment at this time. The CRMP has identified the lands within the Allotment as available for livestock grazing; a decision to implement a No Grazing Alternative would not be consistent

with the CRMP. Under 43 CFR 1610.5-3, all actions approved or authorized by the BLM must conform to the existing land use plan. Actions out of conformance with the CRMP would require a land use plan amendment, which is outside the scope of this EA.

Under the No Grazing Alternative, the BLM would implement the fuels and herbicide treatment as described in the Proposed Action.

3.0 AFFECTED ENVIRONMENT

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the No Action Alternative (Current Management), Proposed Action, and No Grazing Alternative. The Affected Environment is the same for all alternatives.

3.1 General Setting

The Allotment is among the smaller allotments on the Carson City District and includes 4,504 acres of public land and 1,358 acres of privately-owned land. The elevation ranges from 4,200 feet on the north end of the Allotment near Pyramid Highway at Mullen Pass to 6,200 feet at the south end which borders private land. The predominant plant community is Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wymoningensis*) and desert needlegrass (*Achnatherum speciosum*). There are springs throughout the Allotment, but the major water source is Perry Spring running from north to south in the center of the Allotment.

3.2 Supplemental Authorities

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies supplemental authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents (BLM 2008a). Table 1 lists the Supplemental Authorities and their status in the Allotment. Supplemental authorities that may be affected by the Proposed Action or Alternatives are further described in this EA.

Table 1. Supplemental Authorities*.

Resource	Present Yes/No	Affected Yes/No	Rationale
Air Quality	Y	N	Although the Allotment is located within Washoe County, a non-attainment area, authorizing a new term grazing permit would not affect the air quality status.
Areas of Critical Environmental Concern	N		Resource not present.
Cultural Resources	Y	N	No range improvements or ground-disturbing vegetation treatments are proposed. Based on a review of the cultural resources information and livestock use-pattern mapping, the alternatives will not affect historic properties. This analysis is summarized in BLM cultural resources report CRR 3-3647, on file at the BLM CCDO.
Environmental Justice	N		Resource not present.
Farm Lands (prime or unique)	N		Resource not present.
Floodplains	N		Resource not present.
Invasive, Non-native Species	Y	Y	Carried forward for analysis.
Migratory Birds	Y	Y	Carried forward for analysis.
Native American Religious Concerns	Y	N	Information was provided to Tribe on 12/26/2012. To date, no information has been provided to BLM regarding concerns about traditional use or religious concerns. None of alternatives would change access to or distribution of trees or plants available for traditional uses.
Threatened or Endangered Species	N		Resource not present.

(animals)			
Threatened or Endangered Species (plants)	N		Resource not present.
Wastes, Hazardous or Solid	N		Resource not present.
Water Quality (Surface/Ground)	Y	N	None of the alternatives would have an effect on water quality in the Allotment.
Wetlands/Riparian Zones	Y	Y	Carried forward for analysis.
Wild and Scenic Rivers	N		Resource not present.
Wilderness/WSA	N		Resource not present.

**See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered.*
Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.
Supplemental Authorities determined to be Present/May Be Affected may be carried forward in the document.

3.3 Resources or Uses Other Than Supplemental Authorities

BLM specialists have evaluated the potential impact of the Proposed Action or Alternatives on these resources and documented their findings Table 2. Resources or uses that may be affected by the Proposed Action or Alternatives are further described in this EA (BLM 2008a).

Table 2. Resources or Uses Other Than Supplemental Authorities.

Resource or Issue**	Present Yes/No	Affected Yes/No	Rationale
BLM Sensitive Species (animals)	Y	Y	Carried forward for analysis.
BLM Sensitive Species (plants)	Y	Y	Carried forward for analysis.
Fire Management	Y	Y	Carried forward for analysis.
General Wildlife	Y	Y	Carried forward for analysis.
Global Climate Change	Y	N	Although there is a public and scientific debate about human-caused contributions to global climate change, no methodology currently exists to correlate greenhouse gas emissions (GHG) from Alternatives A and B, and to what extent these contributions would contribute to global climate change.
Greenhouse Gas Emissions	Y	N	Under Alternatives A and B there would be negligible contribution of a GHG – methane, no methodology currently exists to correlate GHG emissions from livestock grazing to any specific resource impact within the Allotment.
Land Use Authorization	Y	N	The issuance of a livestock grazing permit would not change the existing land uses or authorizations present in the Allotment.
Lands with Wilderness Characteristics	N		Resource not present.
Livestock Grazing	Y	Y	Carried forward for analysis.
Minerals	Y	N	Although mining claims may be present in the Allotment, none of the alternatives would affect any minerals activities.
Paleontological	N		Resource not present.
Recreation	Y	N	Although dispersed recreation may occur in the Allotment, there are no range improvements proposed such as fencing that would affect access to recreational uses.

Socioeconomics	N		Resource not present.
Soils	Y	N	Although present, none of the alternatives would affect the soil conditions present in the Allotment.
Travel Management	N		Resource not present.
Vegetation	Y	Y	Carried forward for analysis.
Visual Resources	Y	N	The Allotment is within VRM Class III; the issuance of a livestock grazing permit would not modify the visual character of the Allotment. Implementation of the fuels treatment would not be inconsistent with VRM Class III.
Wild Horses and Burros	N		The Allotment is not within a BLM-managed herd management area.

***Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*
Resources or uses determined to be Present/May Be Affected may be carried forward in the document.

3.4 Resources Considered for Analysis

The following resources are or may be present in the Allotment and may be affected by the Proposed Action or Alternatives.

3.4.1 Livestock Grazing

The permitted use within the Allotment is 45 cattle during the period September 1 to December 31 for a total of 180 AUMs. The full authorized grazing preference is 180 AUMs. However, actual livestock use has differed from permitted use as described below:

- Records for the Allotment go back to 1954 in the grazing files. At that time and up until 1966, the Allotment was permitted to Dalton La Rue. During the period from 1954 to 1966 portions of the Allotment were sold, reducing the public land to about 5,000 acres and the permitted AUMs to 205;
- Between 1966 and 1994 the Allotment changed hands and the season of use and permitted AUMs also changed. In 1985 the 205 AUMs on the Allotment were split with 185 allocated to livestock and 20 reserved for wildlife;
- In 1994 the Allotment was transferred to Ed Depaoli, with 180 AUMs from September 1 to December 31. In 1997, the Allotment was transferred to the Tribe with 180 AUMs from September 1 to December 31; and
- There has been permitted actual use on the Allotment in 10 of the 33 years between 1978 and 2012. Prior to that, in the 11 years between 1954 and 1977 the actual use was not documented.

Utilization. Utilization refers to the proportion (usually percentage) of the current years forage production that is consumed and/or destroyed by grazing animals. Recommended utilization levels depend upon how fully each forage species in the plant community can be defoliated and still maintain or improve in vigor. Proper use refers to the maximum degree of use by grazing, expressed as a percent deemed to be physiologically correct from the standpoint of plant vigor, reproduction, longevity and regrowth potential. The utilization goal within the Allotment was moderate (41 percent to 60 percent) or lower utilization of key plant species. To avoid confusion it is important to note that moderate is defined in the BLM's Technical Reference "Utilization Studies and Residual Measurements" is much higher than is commonly referred to in range management literature which defines moderate use as 21 percent to 40 percent.

Many factors influence livestock use and distribution such as topography, distance from water, plant community characteristics, type of livestock, weather and fencing. For the years in which utilization studies were done, most cattle use on the Allotment was Slight to Light as shown in the table below.

Table 3. Allotment Utilization 1984-2006.

Month\Year	Type	Slight (10%)	Light (30%)	Moderate (50%)	Heavy (70%)	Severe (90%)
January 1984	Horses	32%	0%	18%	43%	6%
May 1992	Cattle	66%	27.2%	6.8%*	0%	0%
June 1997	Cattle	91.6%	6.7%	1.7%*	0%	0%
March 1998	Cattle	94.1%	0%	5.8%*	0.1%*	0%
April 1999 Nov 1999	Cattle	100% 89%	0% 5.4%	0% 5.3%*	0% 0.3%*	0% 0%
January 2001	Cattle	90.4%	1.6%	8.0%*	0%	0%
March 2005	Cattle	61.4%	30.5%*	6.9%	1.3%	0%
March 2006	Cattle	64.8%	26.1%	9.1%	0%	0%

* Use adjacent to Tribal lands likely from an open gate.

The BLM has documented trespass cattle and horse use on the Allotment. Both horses and cattle were under the ownership of the Tribe (see Section 5.0 for more information).

3.4.2 Vegetation

Plant communities within the Allotment include: small areas of riparian vegetation associated with springs, meadows and drainages such as aspen trees, cottonwood trees, willow (*Salix* spp)., sedges and rushes; big sagebrush (Wyoming, Basin & Mountain), salt desert shrub communities (shadscale, salt brush), and low sagebrush (*Artemisia arbuscula*).

The major perennial grass species found on the Allotment are Thurber's needlegrass (*Achnatherum thurberianum*), Indian ricegrass (*Achnatherum hymenoides*), desert needlegrass, bottlebrush squirreltail (*Elymus elymoides*), Basin wildrye (*Leymus cinereus*), and Sandberg bluegrass (*Poa secunda*). The major shrub species found on the Allotment are Wyoming big sagebrush, low sagebrush, basin big sagebrush (*Artemisia tridentate* var. *vaseyana*), mountain big sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Ericameria nauseosa*), shadscale (*Atriplex confertifolia*) and antelope bitterbrush (*Purshia tridentata*). The major tree species found on the Allotment is Utah juniper, both within and outside of its natural range.

The Natural Resources Conservation Service (NRCS) defines the expected vegetation on rangelands through the use of Reference Sheets for defined soil map units within Ecological Sites. The vegetation in the Allotment departs from the NRCS Reference Sheet for the site in a number of ways. The vegetation in the Allotment has less diversity in desirable plant species and shows less recruitment of new plants. The site is shrub-dominated rather than grass-dominated, and the altered shrub community has co-dominant shrubs that are increaser species representative of past disturbance. The site is invaded by cheatgrass (*Bromus tectorum*) and encroached by juniper trees. There is a high level of habitat fragmentation and the Allotment is dissected by numerous roads and single-track trails.

Representation of Life Forms and Numbers of Species

While a variety of shrubs, forbs and grasses occur throughout the Allotment, vegetation is less diverse than expected based on the variety of species in the ecological site descriptions. In addition, the proportion of shrubs to grasses is the reverse of what is expected for the site. All of the sites observed had changes in expected plant functional/structural groups as compared to the reference site. The sites were shrub-dominated with shrubs comprising an average of 60 percent of the vegetation when they should be closer to 40 percent based on the reference site. Increaser shrubs such as snakeweed (*Gutierrezia sarothrae*) and desert peach (*Prunus andersonii*) were often sub-dominate to the sagebrush rather than the associated shrubs expected to be subdominants (horsebrush, rabbitbrush, spiny hopsage). Grasses are under-represented. Deep-rooted cool season perennial bunch grasses should comprise about 50 percent of the vegetation based on the ecological site descriptions, but were closer to 30 percent. Increaser species cheatgrass, fiddleneck, mustards, and juniper occur throughout the Allotment and are overrepresented on all of the sites. The two sites where rangeland health evaluations were conducted had slight to moderate departure from expected conditions relative to the reference site for biotic integrity due to the changes in functional/structural groups and the presence of invasive and increaser plants mentioned above.

Diversity of Height, Size, and Distribution of Plants

There was a diversity of height and size in some of the species present on the Allotment, both those key species indicating good land health and increaser species indicating poorer land health. There was a diversity of height and size of sagebrush on all sites observed on the Allotment. Four of the seven sites also had a diversity of rabbitbrush, three had a diversity of Thurber's needlegrass, and two had a diversity of squirreltail. Five of the seven sites observed had a diversity of juniper. Sagebrush and Thurber's needlegrass are considered key species. Rabbitbrush and squirreltail are increaser species that aid in soil retention, but tend to crowd out other species and reduce overall diversity. As juniper density increases over time, it effectively denies site resources to other plants through its disproportionate water use.

Photo plot trend data shows the percent cover of Thurber's needlegrass and Indian ricegrass is either increasing (as the plants grow larger) or remaining constant in plots. In general, upland plant species were well distributed across the Allotment with key species (Wyoming big sagebrush, Thurber's needlegrass, desert needlegrass, and/or Indian ricegrass).

Number of Wood Stalks, Seed Stalks, and Seed Production Adequate for Stand Maintenance

Based on the two rangeland health evaluations, there is reduced recruitment in the plant communities on the Allotment. Few juveniles were observed on the upland portions of the Allotment during assessments and monitoring visits. Photo trend plot data shows there has been no recruitment (no seedlings) of key species in plots. The presence of the invasive species cheatgrass, and the encroachment of juniper lead to monopolization of site resources and effectively deny them to seedlings attempting to establish.

3.4.3 Wetlands/Riparian Zones

Overall the Allotment has minimal surface water features (Map 5). There are no wetlands on the Allotment. Most of the Allotment is located within the Lower Mullen Creek sub-watershed. A very small portion in the southwestern corner of the Allotment is within the Upper Mullen Creek sub-watershed. Both Lower Mullen Creek and Upper Mullen Creek sub-watersheds drain into the Mullen Creek watershed, and ultimately into the Pyramid Lake Valley hydrologic basin. There are no perennial creeks within the Allotment. There are two intermittent creeks within the Allotment, Mullen Creek and Perry Canyon Creek. Mullen Creek does not support riparian vegetation, whereas Perry Canyon Creek has riparian species including willow, chokecherry (*Prunus virginiana*) and wild rose (*Rosa* spp.). These riparian plant species are dispersed throughout the 2.1 miles of Perry Canyon within the Allotment.

A storm event in September 2012 had estimated water flows of 160 – 660 cubic feet per second (cfs) in Perry Canyon. This flashflood ran out of Perry Canyon onto the alluvial fan and followed drainages to Mullen Creek and State Route 445. Water flow of this magnitude was abnormal and resulted in change of the channel morphology. Record of intermittent flow seen in exposed cutbanks, supported a geomorphologically active channel within Perry Canyon.

Additionally, there are four springs within the Allotment, although only three had surface water to support riparian vegetation at the time of a 2010 field visit. The names of the three perennial springs are: Perry Spring; Mullen Pass Spring (also referred to as Pah Rah Spring); and Tamarisk Spring.

Table 4 provides basic data for each analyzed location, and summarizes the condition ratings for the 2010 field visit. The trends for Functional-At Risk are based on previous assessments completed in 2000. Factors contributing to Functional-At Risk conditions are both within and outside of BLM's jurisdiction. Mullen Pass Spring and Tamarisk Spring were dug out, causing water to pool instead of flow. The purpose of the dug-outs was to increase the volume of surface water in a concentrated area. The BLM does not have range improvement permit records for these dug out developments. Remnants of rocked-in retention walls at Tamarisk Spring suggest development during historical mining and settlement activities that date back to the 1870's. Factors affecting Functional-At Risk conditions include horses owned by the Tribe. Impacts from horse hoof action were noted by the staff of specialists assessing riparian area functionality as disturbances that altered flow paths on Mullen Pass Spring, Tamarisk Spring, as well as Perry Spring. Perry Canyon, including the area surrounding the spring, has a great deal of horse sign and browsed young willow. Specialists also noted evidence of targetshooting and trash accumulation at Tamarisk Spring and Mullen Pass Spring. All of these surface disturbances have affected riparian vegetation in composition, vigor, and cover.

Table 4. 2010 Riparian Assessment Data.

Name	Date Assessed	UTM Northing	UTM Easting	Rating	Acres
Perry Spring	6/10/10	4413361	279386	PFC	0.24
Mullen Pass Spring (also referred to as Pah Rah Spring)	6/11/10	4417107	277767	FAR-UP	0.03
Tamarisk Seep	6/11/10	4416384	277089	FAR-UNK	0.1

Rating key: PFC = Proper Functioning Condition
FAR-UP = Functional-At-Risk with an Upward Trend
FAR-DN = Functional-At-Risk with an Downward Trend
FAR-UNK = Functional-At-Risk with an Unknown Trend
NF = Nonfunctioning

Acres were determined in GIS in 2012.

To monitor drought conditions in 2012, growing condition indicator checklists recorded use of vegetation at two photo trend plots. Observations made at photo trend plot sites PR1 and PR2 were different based on the proximity to water sources (Figures 1 and 2). Photo trend plot PR1 is near the mouth of Perry Canyon and a water source. PR1 showed 50 percent utilization of previous year's growth of the key species, ricegrass. However, the PR1 photo does not show an availability of half of the key species and 15 to 25 percent of intact current seedstalks. This quantifiable amount of key species vegetation is the moderate level of use threshold used for healthy rangeland standards. Therefore, the cattle turned out on September 1 for dormant season grazing were utilizing an Allotment where concentrated use by horses had already exceeded the yearly allowed use of key species in areas near water. In contrast, photo trend plot PR2 had five to 10 percent use of previous year's growth of ricegrass.

According to Holechek (1988), areas one to two miles from water receive 50 percent less use by cattle than sites closer to water, while areas more than two miles from water are seldom used by cattle. Photo trend plot PR2 is greater than two miles from a water source.

Figure 1. Photo trend plot (PR1)

Figure 2. Photo trend plot (PR2)

3.4.4 General Wildlife

Key Habitat Types and Species Information. Based on the Southwest Regional GAP Analysis Project, the Nevada Wildlife Action Plan (NWAP) describes Nevada's 27 key habitat types and identifies wildlife species assemblages for each (Wildlife Action Plan Team 2006). The key habitats in the Allotment are listed below, along with some of the general wildlife species associated with them.

Intermountain Cold Desert Scrub – Some of the general wildlife species associated with this habitat type include kit fox (*Vulpes macrotis*), Great Basin collared lizard (*Crotaphytus bicinctores*), desert horned lizard (*Phrynosoma platyryhinos*), long-nosed leopard lizard (*Gambelia wislizenii*), and black-throated sparrow (*Amphispiza bilineata*). Many wildlife species use both cold desert scrub and sagebrush habitats. For example, kit fox den in sandy soils in cold desert scrub habitat and also forage for prey in sagebrush plant communities.

Sagebrush – General wildlife species such as Great Basin pocket mouse (*Perognathus parvus*), sagebrush lizard (*Sceloporus graciosus*), black-tailed jackrabbit (*Lepus californicus*), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), black bear (*Ursus americanus*), and sagebrush vole (*Lemmiscus curtatus*) are associated with this habitat type.

Lower Montane Woodlands – Juniper woodlands provide habitat for general wildlife species such as gray flycatcher (*Empidonax wrightii*), western scrub-jay (*Aphelocoma californica*), mule deer, and black bear.

Mule Deer and Pronghorn Antelope – The Allotment occurs in crucial summer habitat and year-round habitat for mule deer and pronghorn (NDOW 2012). The main factors occurring within the Allotment that are affecting deer and pronghorn populations are recreation and road density, however a lack of perennial grasses and forbs from fires and woodland encroachment is also reducing habitat quality.

Habitat Conditions – Overall there is low plant diversity and low recruitment of new plants in the Allotment, including at seeps and springs. Mature shrubs dominate the Allotment and perennial grasses are under-represented. The Allotment is invaded by cheatgrass and encroached by juniper trees. Sagebrush that is in good condition has a healthy bunchgrass/forb component, whereas sagebrush that has a depleted understory lacks the ability to provide adequate cover and food for wildlife (Wildlife Action Plan Team 2006). In general, wildlife species benefit from a sagebrush community that contains a mix of seral stages, shrub densities, and height classes with a diversity of plant species. Current habitat conditions are likely skewed toward those wildlife species more tolerant of early seral conditions, i.e. a loss of perennial understory vegetation (Bleich 2005). Vegetation is currently limited for wildlife species that require perennial grasses and forbs for cover and sources of food. A number of factors including off-highway vehicles, roads, right-of-ways (ROWs) for utility and highway corridors, mining, and wildfire have contributed to fragmentation of wildlife habitat in the Allotment.

3.4.5 Migratory Birds

Regulatory Setting. In 2001, President Clinton signed Executive Order (EO) 13186 placing emphasis on the conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 and EO 13186 addresses the responsibilities of federal agencies to protect migratory birds by taking actions to implement the MBTA. BLM policy for migratory bird management is provided in Information Bulletin (IB) No. 2010-110 and is based on the 2010 Memorandum of Understanding (MOU) between the BLM and the U.S. Fish and Wildlife Service (FWS) for the conservation of migratory birds. According to the MOU, BLM Priority Migratory Birds are those migratory birds that are BLM sensitive species, those listed in the periodic FWS report *Birds of Conservation Concern* (FWS 2008), and those identified by the FWS Division of Migratory Bird Management as game birds below desired condition.

Species Information. Appendix D provides a list of migratory birds that may be present in the Allotment.

Raptors – Raptors such as ferruginous hawks (*Buteo regalis*) and golden eagles (*Aquila chrysaetos*), hunt over sagebrush for ground squirrels, jackrabbits, and other prey and likely forage in the Allotment. These raptors are limited by prey densities and threats to these raptors include reductions in prey populations from degradation or loss of rangelands. These raptors benefit from sagebrush habitat with a productive herbaceous understory that provides healthy prey populations (GBBO 2010).

3.4.6 BLM Sensitive Species (Animals)

Regulatory Setting. BLM Instruction Memorandum (IM) No. 2009-039 transmits the BLM 6840 Special Status Species Manual, the principal policy instrument detailing BLM management of special status species. Special status species are those species listed or proposed for listing under the Endangered Species Act together with species designated internally as Bureau sensitive by State Directors. A list of the Nevada BLM sensitive species was released in 2011 (see IM No. NV-2011-059 and final list released in October 2011).

Species Information. Appendix D provides a list of BLM sensitive species that may be present in the Allotment.

Greater Sage-Grouse – The Allotment occurs in the Pah Rah population management unit (PMU). There are no known leks in the Allotment. The Allotment occurs within PGH. Habitat in the Allotment is considered general habitat because it lacks a key component, such as adequate herbaceous understory, that prevents it from meeting its full habitat potential.

Bighorn Sheep – The Allotment is considered potential bighorn sheep habitat by NDOW, but is not currently occupied. No bighorn sheep releases in the Virginia Mountains are proposed by NDOW in their Big Game Release Plan for Fiscal Years 2012 and 2013. This species is not discussed further.

Pygmy Rabbit – Pygmy rabbits are not known to occur on the Allotment; observations of pygmy rabbits have not been documented and areas of potential habitat have not been identified by NDOW or BLM on the Allotment. Habitat can be recognized by distinctly taller patches of mature sagebrush, which are indicative of deeper soils. Burrows and pellets are excellent indicators of the occurrence of pygmy rabbits (Himes and Drohan 2007). Pygmy rabbits spend the majority of their time close to their burrows resulting in high concentrations of pellets around burrows. This species is not discussed further.

3.4.7 BLM Sensitive Species (Plants)

Species Information. Potential habitat for two species may occur within the Allotment: Ames' milkvetch (*Astragalus pulsiferae* var. *pulsiferae*) and Webber's Ivesia (*Ivesia webberi*).

Ames' milkvetch – is a species that was added to the BLM sensitive species list in 2011. In general this species inhabits sandy loam soils. The soil types in the Allotment consist of the following: sandy loam, coarse sandy loam, stony loam and stony sandy loam. This species is associated with Wyoming big sagebrush and low sagebrush and blooms in late spring-early summer.

Webber's Ivesia – is a plant species that is federally listed as a candidate species, and is listed by BLM as a sensitive species. In general this species inhabits sandy loam soils. This species is associated with Wyoming big sagebrush and low sagebrush, and blooms in late spring-early summer.

3.4.8 Invasive, Non-Native Plant Species

Noxious weeds species are present in the Allotment but at present are only known in areas with sufficient soil moisture such as around springs and creeks. Surveys for noxious weeds were conducted in September 2012. Only salt cedar was found at Tamarisk Spring. No noxious weeds were found at Mullen Pass Springs or along the lower half of Perry Creek. The invasive plant cheatgrass is common on the Allotment.

3.4.9 Fire Management

Fire history and fire effects in the Great Basin are a vital component of resource health. Fire should play a regular disturbance role in the ecosystem. Fire exclusion has occurred throughout the west since Europeans arrived, which is thought to have affected the natural role of fire. Vegetation volume has increased, and vegetative composition has changed as a result of this natural disturbance alteration resulting in mature sagebrush with increasing dead to live woody material and decreasing understory grasses and forbs. Fires prior to European settlement once carried through fine fuels and created structural and age class diversity in sagebrush sites. According to Miller and Tausch (2001), infrequent fires in the past 130 years have allowed juniper woodlands to expand into sagebrush sites. This fuel type presents a unique fire hazard as the potential for crown fire is higher. In areas where fires have not occurred for many years, fuel loading can increase the intensity of fire causing atypical burn results. Timing, intensity, and frequency can critically influence vegetation recovery, leading to potentially long-term changes in vegetation and flammability.

Several factors influence the condition of plant communities. Historically fire has been the dominant force controlling the distribution of the plant communities in the Great Basin. As crown cover and density increase, fuel loads result in a shift from low and mixed intensity fires to less frequent high intensity fires. High intensity fires create a post fire environment that is often exploited by fire dependent species such as cheatgrass. Once established this species provides fine fuels that increase opportunities for wildfire ignition and spread. In many areas cheatgrass is associated with a fire return interval of two to five years. Other factors influencing the vegetation density, crown cover and species composition are: livestock and horse grazing, drought, fire suppression and perhaps climate change. Six percent of the Allotment vegetation has been influenced by fire in the past 30 years (see Section 5.0 for more details).

The Allotment is located in the Reno/Sparks Fire Management Unit (NV-030-02). Aggressive initial attack and full suppression of all wildfires threatening the developing wildland urban interface is the norm. The 500 acre treatment area could be characterized as a Phase 1 juniper woodland averaging five percent total tree cover per acre (Tausch et al. 2009). The fire history database has no record of wildfire in the Allotment. No evidence of wildfire history was seen during a site visit in the fall of 2012, indicating this is a sagebrush site converting into Phase 1 juniper woodland because of lack of disturbance.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential direct, indirect, and residual effects to resources that may result from the Proposed Action or Alternatives, as well as identifies the potential monitoring needs associated with the specific resources. In this document, the word "adverse" is used in characterizing minor (non-significant) detrimental effects to a resource, and "negligible" is used in characterizing minor (non-significant) detrimental effects to a resource and difficult to detect. "Beneficial" effects would have a positive effect on the resource. In this document, the terms "effect" and "impact" are used synonymously.

4.1 Alternative A: No Action (Current Management)

4.1.1 Livestock Grazing

Under the No Action (Current Management) Alternative there would be no changes in the term livestock grazing permit. The stocking rate for cattle within the Allotment would be 45 cattle from September 1 to December 31 for a total of 180 AUMs. The standard terms and conditions included in the current permit would apply (see Appendix A). Existing fencing within the Allotment would continue to be maintained.

4.1.2 Vegetation

Under the No Action (Current Management) Alternative up to 180 AUMs of the prior season's annual forage production could be removed by grazing livestock during the dormant season when there is no vegetative growth. Livestock grazing would have little impact on the ecological condition of plant communities. The site has low inherent productivity due to the stoniness of the soils and the low (8-10 inches) precipitation levels. Analysis of the two photo trend plots on the Allotment between 1975 and 2010 indicate a static trend based on the lack of recruitment in and around the plots while the existing plants in the plot are growing larger or staying the same size.

The plant communities within the Allotment would continue in a static state with invasive species (primarily cheatgrass) and juniper encroachment into areas previously unoccupied by juniper, limiting recruitment of new plants. Managed livestock grazing would reduce the risk of wildfire by decreasing the amount of available fine fuels (cheatgrass).

4.1.3 Wetlands/Riparian Zones

Under the No Action Alternative permitted use would be 45 cattle from September 1 to December 31 for 180 AUMs. The impacts of the No Action Alternative include short-term surface disturbance to soils with hoof action and grazing of riparian vegetation in and near riparian zones. Long-term impacts are related to the Allotments ability to rebound in the off-season (January 1 to August 31). Riparian habitat has been impacted by hoof action and grazing of riparian plants, which affect the abundance, composition, and vigor of riparian plants. The ability for riparian zones to rebound in the off-season is limited by year round use by horses owned by the Tribe.

Limited water sources within the Allotment create concentrated use by cattle during the permitted use season. The year-round use of riparian zones by horses owned by the Tribe makes it difficult to separate out the amount of disturbance caused by livestock grazing.

Under the No Action Alternative, there would be no fuels or herbicide treatment, therefore there would be no impact to riparian zones from these activities.

4.1.4 General Wildlife

Under the No Action Alternative, there would be no change to the current grazing permit, which authorizes grazing of 45 cattle from September 1 to December 31. Livestock grazing would continue to have little effect to upland wildlife habitat because current permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would continue to occur outside the growing season when plants are dormant. The current level of grazing has been permitted for several decades and Allotment monitoring data indicate a static trend in upland vegetation conditions. Cheatgrass occurs throughout the Allotment, and grazing during the dormant period may favor perennial species where cheatgrass and perennials are mixed (Paige and Ritter 1999). There are limited sources of water on the Allotment for wildlife, livestock, and horses, and reduced levels of precipitation over the past 10 years have increased pressure on the available sources.

In general, wildlife abundance and distribution in the Allotment is most impacted by recreation and high road density, not current grazing practices. A network of roads and trails provides access throughout the Allotment.

Without fuels treatment, the quality of sagebrush and riparian habitat would decline because juniper trees would continue to expand into the sagebrush, limiting the recruitment of new plants and the persistence of a healthy, diverse understory needed by wildlife. As juniper density increases over time, it effectively denies soil moisture to other plants through its disproportionate water use and can eventually replace sagebrush habitat. Declining health of sagebrush habitat would decrease forage and cover available to wildlife. Higher fuel loads from increased tree biomass and continuous canopy cover would increase the risk of losing habitat to large-scale, high-severity wildfires uncharacteristic of the natural fire regime. Wildfire would likely increase cheatgrass, further reducing habitat quality. Loss of habitat to severe wildfire is of concern because rehabilitation is often costly and unsuccessful. This alternative represents a lost opportunity to benefit wildlife by enhancing habitat for the long-term. There would be no impacts to general wildlife from the fuels and herbicide treatments because neither of these actions would occur.

4.1.5 Migratory Birds

Under the No Action Alternative, there would be no change to the current grazing permit, which authorizes grazing of 45 cattle from September 1 to December 31. Grazing would continue to have little effect to migratory birds and their habitat because permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would occur in the winter season when plants are dormant. Season of use appears to be a more important consideration than grazing intensity for minimizing impacts to birds (Knopf 1996). Grazing when vegetation is dormant can drastically reduce physical impacts of cattle on vegetation and bird communities. Grazing would not affect nesting birds because cattle would not be in the Allotment during the nesting season (generally considered to be March 1 to July 15).

The quality of sagebrush and riparian habitat for migratory birds would decline without fuels

treatment because juniper would continue to expand and infill habitat. Continued juniper invasion would also increase the risk of losing habitat in the Allotment and surrounding area to severe wildfire. This alternative represents a lost opportunity to benefit migratory birds by enhancing habitat for the long-term. There would be no impacts to migratory birds from the fuels and herbicide treatments because neither of these actions would occur.

4.1.6 BLM Sensitive Species (Animals)

Under the No Action Alternative, there would be no change to the current grazing permit, which authorizes grazing of 45 cattle from September 1 to December 31. Grazing would continue to have little effect to BLM sensitive species and their habitat because permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would occur in the winter season when plants are dormant.

The quality of sagebrush and riparian habitat for sensitive species would decline without fuels treatment because juniper would continue to expand and infill habitat. Continued juniper invasion would also increase the risk of losing habitat in the Allotment and surrounding area to severe wildfire. This alternative represents a lost opportunity to benefit sensitive species by enhancing habitat for the long-term. There would be no impacts to sensitive species from the fuels and herbicide treatments because neither of these actions would occur.

4.1.7 BLM Sensitive Species (Plants)

Under the No Action (Current Management) Alternative there would be no changes in the term livestock grazing permit. The cattle would continue to graze from September 1 to December 31 which is well beyond the active growing period of both Ames' milkvetch and Webber's Ivesia. Neither plant would be would be effected by dispersed grazing because the plants would be in a dormant stage and stem and leaf tissue would be dead.

There would be no impacts to sensitive species from the fuels and herbicide treatments because neither of these actions would occur.

4.1.8 Invasive, Non-Native Plant Species

Under the No Action (Current Management) Alternative there would be no changes in the term livestock grazing permit. The cattle would continue to graze from September 1 to December 31.

Under the No Action Alternative, there would be no fuels treatment, therefore there would be no effects to non-native plant species.

Under the No Action Alternative, no action would be taken to remove a salt cedar tree from one site in the Allotment. Without its removal, salt cedar seed may be transported by wind, water, and animals into different springs and segments of Perry Creek. Animals such as horses could also transport weed seed into areas outside the Allotment.

4.1.9 Fire Management

Under the No Action Alternative, there would be no fuels treatment and hazardous fuel conditions would continue to accumulate beyond levels representative of the natural (historic) fire regime. The resource impacts from wildfires which do occur would be greater than under

the natural fire regime. Habitat values would continue to decline as the perennial, herbaceous understory would further be reduced in the long-term.

4.2 Alternative B: Adjustment to Season of Use (Proposed Action)

4.2.1 Livestock Grazing

The Proposed Action is to issue a new 10-year term livestock grazing permit to the current permit holder that would authorize grazing use by 72 cattle from September 1 through November 15 each year, for a total of 180 AUMs. and result in forage consumption of up to 180 AUMs, annually. The standard terms and conditions included in the current permit would apply (see Appendix A). Existing fencing within the Allotment would continue to be maintained.

4.2.2 Vegetation

The Proposed Action would have little impact on the ecological condition of plant communities. The site has low inherent productivity due to the stoniness of the soils and the low (8-10 inches) precipitation levels. The analysis of the two photo trend plots on the Allotment between 1975 and 2010 indicate a static trend based on the lack of recruitment in and around the plots while the existing plants in the plot are growing larger or staying the same size.

The plant communities within the Allotment would continue in a static state with invasive species (primarily cheatgrass) and juniper encroachment into areas previously unoccupied by juniper, limiting recruitment of new plants. Managed livestock grazing would reduce the risk of fire by decreasing the amount of available fine fuels (cheatgrass).

4.2.3 Wetlands/Riparian Zones

Under the Proposed Action, the season of use would decrease to September 1 to November 15 for 180 AUMs. However the number of cattle would increase from 45 to 72 during this period. The Proposed Action would increase the intensity of utilization to riparian zones. Impacts to riparian zones would increase with more cattle concentrated over a shorter period of time.

Under the Proposed Action, although a fuels treatment would be implemented, there would be no impact to riparian zones. Under the Proposed Action, the BLM would remove salt cedar from one site. This action would benefit this site and likely increase available water.

4.2.4 General Wildlife

Under the Proposed Action, the stocking rate would increase slightly from 45 to 72 cattle, the season would be shortened to September 1 to November 15, and total forage consumption of up to 180 AUMs would stay the same. Grazing would have little effect to upland wildlife habitat because permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would occur in the winter season when plants are dormant. Impacts to riparian habitat would be expected to increase due to an increase in utilization intensity (more cattle using water sources over a shorter period of time), but year-round use by horses would continue to cause degradation.

In general, wildlife abundance and distribution in the Allotment is most impacted by recreation and high road density, not current grazing practices. A network of roads and trails provides access throughout the Allotment.

Implementation of fuels treatment would benefit wildlife by restoring and maintaining sagebrush and riparian habitat. Juniper trees adversely impact sagebrush habitat by reducing or eliminating native vegetation, resulting in habitat loss and fragmentation. Reducing the level of juniper encroachment would improve habitat quality by increasing the availability of soil moisture and nutrients for sagebrush, native perennial grasses, and native forbs. Fuels treatment would help retain perennial grasses and forbs, and this would benefit wildlife that relies on shrub cover, herbaceous plant material, seed production, and insects. Decreasing tree density would also reduce fire risk. Sagebrush is killed by fire and natural sagebrush recolonization in burned areas requires decades for full recovery. Loss of habitat to severe wildfire is of concern because rehabilitation is often costly and unsuccessful. The NWAP conservation strategy for sagebrush habitat involves reducing loss to woodland encroachment of juniper and thus stabilizing the loss of sagebrush habitat to wildfire and exotic species invasion (Wildlife Action Plan Team 2006). Cutting juniper trees could cause short-term adverse impacts to individual animals from disturbance and displacement, but would benefit habitat for the long-term. Any disturbance and/or displacement would only occur in a portion of the Allotment and disturbed/displaced individuals could likely move into similar surrounding habitat.

The removal of one salt cedar tree from Tamarisk Spring would impact any wildlife utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, wildlife would benefit from the removal of the tree as there may be increased water available for their use.

4.2.5 Migratory Birds

Under the Proposed Action, the stocking rate would increase slightly from 45 to 72 cattle, the season would be shortened to September 1 to November 15, and total forage consumption of 180 AUMs would stay the same. Grazing would have little effect to migratory birds and their habitat because permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would occur in the winter season when plants are dormant. Season of use appears to be a more important consideration than grazing intensity for minimizing impacts to birds (Knopf 1996). Grazing when vegetation is dormant can drastically reduce physical impacts of cattle on vegetation and bird communities. Grazing would not affect nesting birds because cattle would not be in the Allotment during the nesting season (generally considered to be March 1 to July 15).

Implementation of fuels treatment would benefit migratory birds by restoring and maintaining sagebrush and riparian habitat. Fuels treatment could have short-term adverse impacts to individual nesting birds if implemented during the nesting season, but would benefit habitat for the long-term.

The removal of one salt cedar tree from Tamarisk Spring would impact any migratory bird utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, migratory birds would benefit from the removal of the tree as there may be increased water available for their use.

4.2.6 BLM Sensitive Species (Animals)

Under the Proposed Action, the stocking rate would increase slightly from 45 to 72 cattle, the season would be shortened to September 1 to November 15, and total forage consumption of 180 AUMs would stay the same. Fuels treatment would also be implemented. Grazing would have little effect to sensitive species and their habitat because permitted use of forage is relatively low (180 AUMs over almost 6,000 acres) and grazing would occur in the winter season when plants are dormant.

Implementation of fuels treatment would benefit sensitive species by restoring and maintaining sagebrush and riparian habitat. Fuels treatment could have short-term adverse impacts to individual sensitive species, but would benefit habitat for the long-term.

Juniper trees adversely impact sage-grouse by reducing or eliminating native vegetation that sage-grouse require for food and cover. Fuels treatment would benefit sage-grouse by improving the condition of PGH, which is important because of the limited availability of habitat on BLM land in the Pah Rah Range. Removing trees would help retain understory vegetation by decreasing competition for soil resources, reduce the risk of habitat loss to wildfire, and decrease nesting and perching opportunities for avian predators such as raptors and ravens. Juniper treatments, particularly when done in the early stages of encroachment, have the potential to provide an immediate benefit to sage-grouse.

The removal of one salt cedar tree from Tamarisk Spring would impact any sensitive species utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, sensitive species would benefit from the removal of the tree as there may be increased water available for their use.

4.2.7 BLM Sensitive Species (Plants)

Under the Proposed Action Alternative there would be an increase of cattle from 47 to 72. The cattle would graze for a shorter period of time from September 1 to November 15 which is well beyond the active growing period of both Ames' milkvetch and Webber's Ivesia. Neither plant would be would be effected by dispersed grazing because the plants would be in a dormant stage and stem and leaf tissue would be dead.

Under the Proposed Action, although a fuels treatment would be implemented, there would be no impact to sensitive species from non-mechanical treatment.

4.2.8 Invasive, Non-Native Plant Species

Under the Proposed Action Alternative there would be an increase of cattle from 47 to 72. The cattle would graze for a shorter period of time from September 1 to November 15. Application of herbicide at one site to remove salt cedar would have no effect on fire management. Under the Proposed Action, one salt cedar tree would be removed from Tamarisk Spring. The tree would be cut, then the stump and bark would be treated with an approved herbicide. The herbicide would be directly applied; there would be no broadcast spraying. Without the trees removal there is risk of seed being transported by wind, water, and animals to other springs and segments of Perry Creek. Animals such as horses could also transport weed seed into areas outside the Allotment.

4.2.9 Fire Management

Under the Proposed Action, the treatment area would become more consistent with the historic fire regime. Over time the fuel load would decrease reducing fire intensity and spotting potential in the treatment area. The fire regime condition class would remain at Phase 1, meaning the treatment area is at a low risk of losing key ecosystem components. The trend of converting the treatment area into Phase 2 woodland would be reversed. The shrubs and grasses would remain the dominant vegetation influencing the ecological processes in the treatment area.

4.3 Alternative C: No Grazing Alternative

4.3.1 Livestock Grazing

Under the No Grazing Alternative, the BLM would not issue a new term livestock grazing permit for the Allotment. No livestock would be authorized on BLM-managed lands within the Allotment at this time.

4.3.2 Vegetation

Under the No Grazing Alternative no annual forage production would be removed by grazing livestock.

The No Grazing Alternative would have little beneficial impact on the ecological condition of plant communities. The plant communities within the Allotment would continue to have reduced diversity and recruitment, and shrubs would continue to dominate much of the Allotment instead of deep-rooted cool season perennial bunch grasses. The risk of fire would likely increase without the benefits of livestock grazing which can reduce the amount of fine fuels.

4.3.3 Wetlands/Riparian Zones

Under the No Grazing Alternative, no impacts to riparian zones and their associated vegetation would occur from cattle grazing. However, year round use by horses would continue impact these areas.

Under the No Grazing Alternative, although a fuels treatment would be implemented, there would be no impacts to riparian zones.

4.3.4 General Wildlife

Under the No Grazing Alternative, authorized cattle grazing would have no effect to wildlife habitat because it would not occur, but existing vegetation conditions in the Allotment do not appear to be the result of current grazing. The current level of grazing has been permitted since the 1970s and monitoring of upland vegetation shows conditions have remained static. The presence of increaser shrubs, such as snakeweed and desert peach, and juniper trees, the dominance of shrubs instead of perennial grasses, and the lack of recruitment of young plants indicate current conditions were caused by historic disturbances like fire, mining, and drought. Therefore, vegetation conditions in the Allotment may not respond to change in livestock management and may require active restoration efforts to improve. In general, wildlife abundance and distribution in the Allotment is most impacted by recreation and high road density.

Implementation of fuels treatment would benefit wildlife by restoring and maintaining sagebrush and riparian habitat. The NWAP conservation strategy for sagebrush habitat involves reducing loss to woodland encroachment of juniper and thus stabilizing the loss of sagebrush habitat to wildfire and exotic species invasion (Wildlife Action Plan Team 2006). Cutting juniper trees could cause short-term adverse impacts to individual animals from disturbance and displacement, but would benefit habitat for the long-term. Any disturbance and/or displacement would only occur in a portion of the Allotment and disturbed/displaced individuals could likely move into similar surrounding habitat.

The removal of one salt cedar tree from Tamarisk Spring would impact any wildlife utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, wildlife would benefit from the removal of the tree as there may be increased water available for their use.

4.3.5 Migratory Birds

Under the No Grazing Alternative, authorized cattle grazing would have no effect to migratory birds and their habitat because grazing would not occur.

Implementation of fuels treatment would benefit migratory birds by restoring and maintaining sagebrush and riparian habitat. Fuels treatment could have short-term adverse impacts to individual nesting birds if implemented during the nesting season, but would benefit habitat for the long-term.

The removal of one salt cedar tree from Tamarisk Spring would impact any migratory bird utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, migratory birds would benefit from the removal of the tree as there may be increased water available for their use.

4.3.6 BLM Sensitive Species (Animals)

Under the No Grazing Alternative, authorized cattle grazing would have no effect to BLM sensitive species and their habitat because it would not occur.

Implementation of fuels treatment would benefit sensitive species by restoring and maintaining sagebrush and riparian habitat. Fuels treatment could have short-term adverse impacts to individual sensitive species, but would benefit habitat for the long-term.

The removal of one salt cedar tree from Tamarisk Spring would impact any sensitive species utilizing the spring (eliminating any shade and perching opportunity). However, as salt cedar consume a great amount of water, sensitive species would benefit from the removal of the tree as there may be increased water available for their use.

4.3.7 BLM Sensitive Species (Plants)

Under the No Grazing Alternative, the BLM would not issue a new term livestock grazing permit for the Allotment. The Ames' milkvetch and Webber's Ivesia would not be impacted because there would be no cattle on the Allotment at this time.

Under the Proposed Action, although a fuels treatment would be implemented, there would be no impact to sensitive species from non-mechanical treatment. Although no cattle grazing would occur, the potential for salt cedar spread to other sites in the Allotment by horses would continue.

4.3.8 Invasive, Non-Native Plant Species

Under the No Grazing Alternative, no cattle would be on the Allotment at this time. One salt cedar tree would be removed from Tamarisk Spring. The tree would be cut, then the stump and bark would be treated with an approved herbicide. The herbicide would be directly applied; there would be no broadcast spraying. Without the trees removal there is risk of seed being transported by wind, water, and animals to other springs and segments of Perry Creek. Animals such as horses could also transport weed seed into areas outside the Allotment.

Any fuels treatment would not harm either of the plants as the treatment would be done only with hand tools and not heavy machinery. The plants would be able to withstand the minor impacts associated with hand thinning of trees.

4.3.9 Fire Management

Under the No Grazing Alternative, the fuels treatment would still be implemented. The treatment area would become more consistent with the historic fire regime. Over time the fuel load would decrease reducing fire intensity and spotting potential in the treatment area. The fire regime condition class would remain at Phase 1, meaning the treatment area is at a low risk of losing key ecosystem components. The trend of converting the treatment area into Phase 2 woodland would be reversed. The shrubs and grasses would remain the dominant vegetation influencing the ecological processes for the treatment area.

4.4 Residual Effects

"Residual effects" are those adverse effects that remain after implementation of mitigation measures. No major (significant) adverse effects have been identified in this draft EA. Measures have been incorporated into the elements of the Proposed Action to avoid and minimize adverse effects. No mitigation is necessary; there would be no residual effects.

5.0 CUMULATIVE EFFECTS

A cumulative effect is defined under NEPA as "the change in the environment which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other action". "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7). Past, present, and reasonably foreseeable future actions are analyzed to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the Proposed Action and Alternatives may have an additive relationship to those effects.

Geographic Scope

The geographic scope of the cumulative effects analysis is the entire Allotment, encompassing approximately 4,504 acres of BLM-managed lands and 1,358 acres of privately-owned land (Map 1).

Timeframe of Effects

Direct and indirect effects associated with livestock grazing and Allotment fencing would occur over a 10-year period, which is the lifespan of the new term livestock grazing permit.

Past Actions

The Pah Rah Mountain Range was subject to a historic regime of wildfire caused by lightning strikes. Natural-caused fire may have burned several acres to several thousand acres during one event. In more modern times, the area is also subject to man-caused wildfire in addition to lightning-caused fire. Several wildfires have occurred within the past 30 years adjacent to and within the Allotment. Typical wildfire patterns create a mosaic pattern on the landscape, burning intensely in some areas removing all vegetation, and burning lightly in other areas, removing only grasses or groundcover. Most fires on the Allotment since BLM has maintained records were an acre or less, with one fire burning approximately 270 acres. Table 5 shows the wildland fire within the Allotment since 1980.

Table 5. Wildland Fires in the Allotment Since 1980.

Event	Name	Year	Acreage
Wildfire	Quail Canyon	1984	1
Wildfire	Quail	1984	270
Wildfire	BIA 14	1985	.1
Wildfire	BIA 15	1990	.1
Wildfire	Whiskey Springs	1991	.1
Wildfire	Quail Canyon	1992	.1
Wildfire	Virginia 2	1992	.1
Wildfire	Dominion	1999	1
Wildfire	John	2000	2.2
Wildfire	Perry	2005	.1
Wildfire	Spanish Springs	2008	.1
Wildfire	Ruth Mine	2008	.1
Wildfire	Cinch	2009	.1
Wildfire	Mullen	2011	.2
Wildfire	Quail	2012	5.5
Wildfire	WNA5	2012	42

Historically, some degree of livestock grazing is likely to have occurred in the Allotment since the mid to late 1800's. Records of BLM permitted livestock grazing date back to 1954. Livestock grazing has been and is a well-established element of the regional economy and is an integral part of the larger society. Many Allotments in the West are managed as a part of multi-generational and family operations that rely on grazing on public lands for income. Between 1954 and 1966 portions of the Allotment were sold and public lands were reduced to about 5,000 acres; at that time AUMs were at 205. In 1985 the AUMs on the Allotment were split with 185 allocated to livestock and 20 for wildlife. Permit transfers occurred in 1994 and 1997. The Tribe has held the livestock grazing permit since 1997 at 180 AUMs. Actual use records are available from 1978 to 2012 as seen in Table 6.

Table 6. Actual Use 1978 to 2012.

Year	Season of Use	AUMs
1978-1986	No actual use	0
1987	September 1 to December 31	64
1988	September 1 to December 31	184
1989-1999	No actual use	0
2000	September 5 to December 1	55
2001	September 15 to November 30	48
2002	September 19 to November 20	35
2003	September 15 to November 30	114
2004	September 30 to November 20	51
2005	September 1 to December 31	120
2006-2010	No actual use	0
2011	September 1 to December 31	180
2012	September 1 to December 31	80

Approximately 14 miles of Allotment boundary fencing has been previously constructed. An enclosure fence exists around Mullen Pass Spring.

Permitted cattle use has not been the only livestock grazing that has occurred in the Allotment. Trespass cattle from Tribal lands adjacent to the Allotment have also utilized forage resources. There were a number of trespass cattle cases documented within the Allotment, including the following:

- In 1992, although no trespass was documented and the Tribe was not using the Allotment, utilization monitoring documented cattle use by the gate adjacent to the Tribal lands;
- In 1997, 11 to 24 head of trespass cattle were documented during the months of August through October;
- In 1998, 11 head of trespass cattle were documented;
- In 1999, nine to 14 head of trespass cattle were documented in June, four to nine head were documented in July, and eight to 33 head in August. Discussions with the trespassing party revolved around a gate left open between the Allotment and Tribal lands;
- Between September and December of 2000, 19 head of cattle were documented;

- In April of 2001, two head of cattle were documented and in September, five to 17 head were documented;
- In August of 2004, four head of cattle were documented;
- In September of 2005, two head of cattle were documented; and
- In June of 2007, there was a report of trespass cattle that could not be confirmed during a visit by BLM staff.

The Allotment is not within a Herd Management Area for wild horses. Horses that have utilized the Allotment are under the ownership of the Tribe. The history of horse use in the Allotment has been documented as follows:

- Horse use was documented on seven transects in 1984, when there was no permitted livestock use. The transects documented horses making severe to heavy use of the northwest half of the Allotment;
- In March of 2006 there was no permitted cattle use, but horse sign was documented on five of 11 transects used for the Allotment Utilization Report;
- In December of 2006 there was no actual cattle use documented, but horse sign was observed by BLM staff;
- In the 2010 vegetation monitoring, horse sign was observed at two out of seven sites visited by BLM staff;
- In September of 2010, 307 adult horses and 17 juveniles were counted in the Pah Rah Range southeast of the Allotment during an aerial horse census; and
- In 2011 BLM staff observed four to five horses on the Allotment near Pyramid Highway.

Dispersed recreation has occurred throughout Allotment. General activities include: rock hounding, hunting, sightseeing, off-highway vehicle (OHV) use, and wildlife viewing. The Allotment is within a "limited" area designation for travel management. Vehicle and OHV use occurs on existing two-track trails and dirt roads. Actual numbers of users per day or per year are not available, but generally speaking the intensity of use is low and dispersed. Most use occurs during the spring and fall months.

Historic mining use has occurred on the Allotment. There are 15 abandoned mines, 34 mine shafts, 31 tunnels or caves and 163 prospecting locations.

Several ROWs and material sites exist along the northern boundary of the Allotment. The ROWs include: Pyramid Highway held by the Nevada Department of Transportation (NDOT); Nevada Bell and Sierra Pacific Power Company for overhead utility lines. There are three material sites (two 40 acres, one 80 acres) held by the NDOT adjacent to Pyramid Highway.

Present Actions

Livestock grazing is a present activity on the Allotment, authorized by the BLM under a term livestock grazing permit. Fourteen miles of existing fencing within the Allotment are maintained in addition to an enclosure fence around Mullen Pass Spring. Livestock grazing in the Allotment is a part of the regional economy and larger society.

The BLM, Tribe and Bureau of Indian Affairs (BIA) are in discussions to address the issues relating to trespass horses on the Allotment. Recreational activities are on-going in the Allotment. General intensity of use is dispersed and low. There are no requests before the BLM for ROW authorizations.

Reasonably Foreseeable Actions

Under the No Action and Proposed Action Alternatives, livestock grazing would continue to occur for a 10-year period, the lifespan of the new term livestock grazing permit. The No Grazing Alternative would result in the removal of all cattle from the Allotment; there would likely be economic harm to the permittee and livestock grazing on the Allotment would no longer contribute to the regional economy and larger society.

Under the Proposed Action and No Grazing Alternatives, the BLM would implement a fuels and herbicide treatment on the Allotment.

Maintenance of fencing within the Allotment would continue under the No Action and Proposed Action Alternatives. Under the No Grazing Alternative the enclosure fencing around Mullen Spring could be removed, and Allotment boundary fencing could be removed if not necessary for management of the adjacent Allotments.

Recreation activities will continue in the future. There are no requests before the BLM for ROW authorizations, although requests could occur at any time.

Although outside the scope of this EA, resolution of the trespass horse issue in the Allotment may include removal of the animals, and repair of fencing owned by the Tribe.

Effects Analysis

Resource topics considered under the Effects Analysis include all resources identified in Table 2 and Table 3 in Section 3.0 which "may be affected" by direct or indirect effects of the Proposed Action or Alternatives. Effects analysis considered all identified past, present and reasonably foreseeable actions within the Allotment.

Livestock Grazing

Under the No Action and Proposed Action Alternatives, livestock grazing would continue, a beneficial cumulative effect. Implementing the No Grazing Alternative and eliminating grazing would likely cause economic harm to the grazing permittee, which would be an adverse cumulative effect to livestock grazing and the regional economy. The fuels treatment under the Proposed Action may have a slight beneficial cumulative effect to livestock grazing due to some increase in forage availability over a 20 to 30 year period. Implementation of the herbicide treatment under the Proposed Action would have no cumulative effect on livestock grazing.

Vegetation

Under the No Action and Proposed Action Alternatives, livestock grazing would continue to remove vegetative forage, although during the plant dormancy period. Due to site conditions, the cumulative impacts from livestock grazing to vegetation would be negligible. Under the No Grazing Alternative, livestock grazing would no longer occur which would marginally increase

dormant vegetation. However the fact that this is a low potential site coupled with utilization by horses may actually result in very little to no response in vegetative conditions over the long-term. The fuels treatment under the Proposed Action and No Grazing Alternative may have a slight beneficial cumulative effect to vegetation due to reduced competition by trees with grasses, forbs and shrubs. Implementation of the herbicide treatment under the Proposed Action and No Grazing Alternative would have a beneficial cumulative effect on vegetation by removing an invasive, non-native species.

Wetland/Riparian Zones

Under the No Action and Proposed Action Alternatives, livestock grazing would continue to utilize riparian zones, a negligible cumulative impact. Under the No Grazing Alternative, livestock grazing would no longer occur which would be expected to cumulatively marginally benefit riparian zones. However the fact that this is a low potential site coupled with utilization by horses may actually result in very little to no response in riparian zone conditions over the long-term. The fuels treatment under the Proposed Action and No Grazing Alternative would have no cumulative effect to riparian zones. The herbicide treatment at Tamarisk Spring under the Proposed Action and No Grazing Alternative would have a beneficial effect by removing an invasive, non-native species. This action may increase water available at the site for native species, and its removal would prevent seed spread to other riparian sites. Under the No Action Alternative no treatment of the salt cedar would occur, an adverse cumulative effect to the riparian site.

General Wildlife

Under the No Action and Proposed Action Alternatives, livestock grazing would continue to remove dormant vegetative forage. Livestock grazing would continue during a non-critical period in the life cycle of general wildlife (would not occur during the breeding season). Forage serves has habitat for general wildlife, and removal of that dormant forage by livestock would be a negligible cumulative effect. Under the No Grazing Alternative, livestock would no longer remove vegetation, however the fact that this is a low potential site coupled with continued use of the Allotment by horses may result in little to no vegetative response. Overall cumulative effects from the No Grazing Alternative are neutral. Short-term cumulative effects from the fuels treatment in the Proposed Action and No Grazing Alternatives would be adverse as some general wildlife may be temporarily displaced. In the long-term cumulative effects would be beneficial, especially for those species dependent on sagebrush and forbs. Implementation of the herbicide treatment under the Proposed Action and No Grazing Alternative would have short-term negligible cumulative effects to general wildlife that benefit from the salt cedars shade and perching opportunities. In the long-term, removal of the invasive, non-native species would be cumulatively beneficial as this would support native species and may increase the availability of water.

Migratory Birds

Under the No Action and Proposed Action Alternatives, livestock grazing would continue to remove dormant vegetative forage. Livestock grazing would continue during a non-critical period in the life cycle of migratory birds (would not occur during the breeding season). Forage serves has habitat for migratory birds, and removal of that dormant forage by livestock would be a negligible cumulative effect. Under the No Grazing Alternative, livestock would no longer

remove dormant vegetation, however the fact that this is a low potential site coupled with continued use of the Allotment by horses may result in little to no vegetative response. Overall cumulative effects from the No Grazing Alternative are neutral. Short-term cumulative effects from the fuels treatment in the Proposed Action and No Grazing Alternatives would be adverse as some migratory birds may be temporarily displaced. In the long-term cumulative effects would be beneficial, especially for those species dependent on sagebrush and forbs. Implementation of the herbicide treatment under the Proposed Action and No Grazing Alternative would have short-term negligible cumulative effects to migratory birds that benefit from the salt cedars shade and perching opportunities. In the long-term, removal of the invasive, non-native species would be cumulatively beneficial as this would support native species and may increase the availability of water.

BLM Sensitive Species (Animals)
Under the No Action and Proposed Action Alternatives, livestock grazing would continue to remove dormant vegetative forage. Livestock grazing would continue during a non-critical period in the life cycle of general wildlife (would not occur during the breeding season). Forage serves has habitat for sensitive species, and removal of dormant forage by livestock would be a negligible cumulative effect. Under the No Grazing Alternative, livestock would no longer remove dormant vegetation, however the fact that this is a low potential site coupled with continued use of the Allotment by horses may result in little to no vegetative response. Overall cumulative effects from the No Grazing Alternative are neutral. Short-term cumulative effects from the fuels treatment in the Proposed Action and No Grazing Alternatives would be adverse as some sensitive species may be temporarily displaced. In the long-term cumulative effects would be beneficial, especially for those species dependent on sagebrush and forbs. Implementation of the herbicide treatment under the Proposed Action and No Grazing Alternative would have short-term negligible cumulative effects to sensitive species that benefit from the salt cedars shade and perching opportunities. In the long-term, removal of the invasive, non-native species would be cumulatively beneficial as this would support native species and may increase the availability of water.

BLM Sensitive Species (Plants)
Under the No Action and Proposed Action Alternatives, livestock grazing would continue to remove vegetative forage, although during the plant dormancy period. Due to site conditions, the cumulative impacts from livestock grazing to sensitive species would be negligible. Under the No Grazing Alternative, livestock grazing would no longer occur which would be expected to marginally cumulatively benefit sensitive species. However the fact that this is a low potential site coupled with utilization by horses may actually result in very little to no response in vegetative conditions over the long-term. The fuels treatment under the Proposed Action and No Grazing Alternative may have a slight beneficial cumulative effect to sensitive species due to reduced competition by trees. Implementation of the herbicide treatment under the Proposed Action and No Grazing Alternative would have a beneficial cumulative effect on sensitive species by removing an invasive, non-native species.

Invasive, Non-Native Species
Under the No Action Alternative there would be a negligible cumulative effect from the potential spread of salt cedar seeds by wind, water and animals. Under the Proposed Action and No

Grazing Alternative a herbicide treatment would be implemented at Tamarisk Spring, a cumulatively beneficial effect.

Fire Management
Under the Proposed Action and No Grazing Alternatives a fuels treatment would occur, a cumulatively beneficial effect. Under the No Action Alternative there would be no fuels treatment, an adverse cumulative effect as the risk would wildfire would increase and habitat values would decline.

5.1 Monitoring

Monitoring would continue as it has before on the Allotment. Utilization data would be collected from pastures at the end of livestock use periods. Actual use would be collected after the end of the grazing season. Trend studies, which are located throughout the Allotment, would be read at least every decade to ensure continued vegetative health and upward trend. Monitoring of cultural resources would continue. All monitoring would be performed in accordance with BLM policy following protocols from BLM approved manuals and technical references. Monitoring would occur where and when applicable and as resources allow.

Monitoring would be conducted throughout the treatment area both during and after implementation. Monitoring would consist of surveys to:

- Ensure that the initial fuel treatment objectives are met;
- Evaluate fuel load recovery;
- Evaluate the need to remove conifers that were passed over the first time;
- Evaluate habitat characteristics; and
- Identify invasive species for subsequent treatment.

Re-application of the approved herbicide at Tamarisk Spring may be required based on monitoring if the first application is unsuccessful or the invasive plant has spread at the site.

6.0 PERSONS, GROUPS, AND AGENCIES CONSULTED

6.1 List of Preparers

Bureau of Land Management

Name	Title	Project Expertise
Ryan Leary	Range Management Specialist	Livestock Grazing
Rachel Crews	Archeologist	Cultural Resources, Native American Religious Concerns
Keith Barker	Fire Planner	Fire Management
Brian Buttazoni	Planning and Environmental Coordinator	NEPA Compliance
Niki Cutler	Hydrologist	Wetland/Riparian Zones
Dean Tonenna	Botanist	BLM Sensitive Species (Plants) Invasive, Non-Native Plant Species
Pilar Ziegler	Wildlife Biologist	General Wildlife, BLM Sensitive Species (Animals), Migratory Birds

6.2 Public Review

The *Pah Rah Grazing Allotment Draft Environmental Assessment* (DOI-BLM-NV-C020-2012-0048-EA) has been made available to the public, Tribes and other agencies for a 30-day review and comment period. **The public review and comment period closes on April 25, 2013**.

Privacy notice: before including your address, phone number, e-mail address, or other personal identifying information in your comment(s), you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment(s) to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

All comments received will be reviewed and categorized. Although not required for an EA by regulation, an agency may respond to *substantive* and *timely* comments.

Substantive comments:

1) question, with reasonable basis, the accuracy of information in the EA;
2) question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis;
3) present new information relevant to the analysis;
4) present reasonable alternatives other that those analyzed in the EA; and/or
5) cause changes or revisions in one or more of the alternatives.

No response is necessary for non-substantive comments (BLM, 2008a).

6.3 Tribes, Individuals, Organizations or Agencies Consulted

The following individuals, organizations, Tribes and agencies were consulted during the preparation of this draf EA:

Tribes

Pyramid Lake Paiute Tribe
Washoe Tribe of Nevada & California

Organizations
Western Watersheds Project
Resource Concepts Inc.
N3 Grazing Board
Nevada Cattlemen's Association

Agencies
Bureau of Indian Affairs
Nevada State Clearinghouse (multiple state and county agencies)

7.0 REFERENCES

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Appendix A - Standard Grazing Permit Terms & Conditions

1. Grazing permit or lease terms and conditions and the fees charged for grazing use are established in accordance with the provisions of the grazing regulations now or hereafter approved by the Secretary of the Interior.
2. They are subject to cancellation, in whole or in part, at any time because of:
    a. Noncompliance by the permittee/lessee with rules and regulations.
    b. Loss of control by the permittee/lessee of all or a part of the property upon which it is based.
    c. A transfer of grazing preference by the permittee/lessee to another party.
    d. A decrease in the lands administered by the Bureau of Land Management within the allotment(s) described.
    e. Repeated willful unauthorized grazing use.
    f. Loss of qualifications to hold a permit or lease.
3. They are subject to the terms and conditions of allotment management plans if such plans have been prepared. Allotment management plants MUST be incorporated in permits or leases when completed.
4. Those holding permits or leases MUST own or control and be responsible for the management of livestock authorized to graze.
5. The Authorized Officer may require counting and/or additional special marking or tagging of the livestock authorized to graze.
6. The permittee's/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.
7. Grazing permits or leases are subject to the nondiscrimination clauses set forth in Executive Order 11246 of September 24, 1964, as amended. A copy of this order may be obtained from the Authorized Officer.
8. Livestock grazing use that is different from that authorized by a permit or lease MUST be applied for prior to the grazing period and MUST be filed with and approved by the Authorized Officer before grazing use can be made.
9. Billing notices are issued which specify fees due. Billing notices, when paid, become a part of the grazing permit or lease. Grazing use cannot be authorized during any period of delinquency in the payment of amounts due, including settlement for unauthorized use.
10. The holder of this authorization must notify the Authorized Officer immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (cultural items), stop the activity in the area of the discovery and make a reasonable effort to protect the remains and/or cultural items.
11. Grazing fee payments are due on the date specified on the billing notice and MUST be paid in full within 15 days of the due date, except as otherwise provided in the grazing permit or lease. If payment is not made within that time frame, a late fee (the greater of $25 or 10 percent of the amount owed but not more than $250) will be assessed.
12. No member of, or Delegate to, Congress or Resident Commissioner, after his/her election of appointment, or either before or after he/she has qualified, and during his/her continuance in office, and no officer, agent, or employee of the Department of the Interior, other than members of Advisory committees appointed in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 1) and Sections 309 of the Federal Land Policy Management Act of 1976 (43 U.S.C. 1701 et seq.) shall be admitted to any share

or part in a permit or lease, or derive any benefit to arise there from; and the provision of Section 3741 Revised Statute (41 U.S.C. 22), 18 U.S.C. Sections 431-433, and 43 CFR Part 7, enter into and form a part of a grazing permit or lease, so far as the same may be applicable.

THIS GRAZING PERMIT:

1. CONVEYS NO RIGHT, TITLE OR INTEREST HELD BY THE UNITED STATES IN ANY LANDS OR RESOURCES AND 2. IS SUBJECT TO (A) MODICICATION, SUSPENSION OR CANCELLATION AS PROVIDED BY LAND PLANS AND APPLICABLE LAW; (B) REVIEW AND MODIFICATION OF TERMS AND CONDIDTIONS AS APPROPRIATE; AND (C) THE TAYLOR GRAZING ACT, AS AMENDED, THE FEDERAL LAND POLICY AND MANAGEMENT ACT, AS AMENDED, THE PUBLIC RANGELANDS IMPROVEMENT ACT, AND REGULATIONS NOW OR HEREAFTER PROMULGATED THEREUNDER BY THE SECRETARY OF THE INTERIOR.

Appendix B – Current and Proposed Grazing Permit Terms & Conditions

1. Grazing management shall be authorized in a manner that will make progress towards meeting the standards as set forth by the Sierra Front-Northwestern Great Basin RAC 1997.
2. Pursuant to 43 CFR 10.4(G), you must notify the Authorized Officer, by telephone, with written confirmation, immediately upon the discovery of human remains. Funerary items, sacred objects, or objects of cultural patrimony. Pursuant to 43 CFR 10.4 (C) and (D), you must stop activities for 30 days or until notified by the Authorized Officer.
3. Salt and/or Supplements will be placed at least ¼ mile from live waters (springs/streams), and outside associated riparian areas, permanent livestock watering facilities, wet or dry meadows and aspen stands. Also salt and/or supplements should not be placed in known historic properties.
4. It is your responsibility to maintain all assigned range improvements in good working order and an aesthetic state.

Appendix C

BLM Sensitive Species and Migratory Birds that may be present because they are associated with the key habitat types present on the Allotment.

Common Name	Scientific Name	BLM Sensitive Species	BLM Migratory Bird
Big brown bat	*Eptesicus fuscus*	Y	-
Brazilian free-tailed bat	*Tadarida braziliensis*	Y	-
Brewer's sparrow	*Spizella breweri*	Y	Y
Burrowing owl	*Athene cunicularia*	Y	N
California myotis	*Myotis californicus*	Y	-
Dark kangaroo mouse	*Microdipodops megacephalus*	Y	-
Ferruginous hawk	*Buteo regalis*	Y	Y
Fringed myotis	*Myotis thysanodes*	Y	-
Golden eagle	*Aquila chrysaetos*	Y	Y
Greater sage-grouse	*Centrocercus urophasianus*	Y	N
Green-tailed towhee	*Pipilo chlorurus*	N	Y
Loggerhead shrike	*Lanius ludovicianus*	Y	Y
Long-eared myotis	*Myotis evotis*	Y	-
Long-legged myotis	*Myotis volans*	Y	-
Mourning dove	*Zenaida macroura*	N	Y
Pale kangaroo mouse	*Microdipodops pallidus*	Y	-
Pallid bat	*Antrozous pallidus*	Y	-
Sage sparrow	*Amphispiza belli*	N	Y
Sage thrasher	*Oreoscoptes montanus*	Y	Y
Spotted bat	*Euderma maculatum*	Y	-
Swainson's hawk	*Buteo swainsoni*	Y	N
Townsend's big-eared bat	*Corynorhinus townsendii*	Y	-
Western pipistrelle bat	*Pipistrellus hesperus*	Y	-
Western small-footed myotis	*Myotis ciliolabrum*	Y	-
Yuma myotis	*Myotis yumanensis*	Y	-